

Title (en)
AlGaN single-crystal wafer

Title (de)
Einkristall-Scheibe aus AlGaN

Title (fr)
Plaquette monocristalline de AlGaN

Publication
EP 1602752 A1 20051207 (EN)

Application
EP 05011927 A 20050602

Priority
JP 2004167377 A 20040604

Abstract (en)
AlGaN single-crystal wafer with alleviated cracking and improved utilization rate and cost effectiveness. A hexagonal $\text{Al}_x\text{Ga}_{1-x}\text{In}_y\text{N}$ ($0 < x \leq 1$, $0 \leq y < 1$, $x + y \leq 1$) single-crystal wafer, characterized in that the wafer has a thickness T (cm) and a principal face with a surface area S (cm^2), the area S and thickness T satisfying the conditions $S \geq 10 \text{ cm}^2$ and $0.006S \geq T \geq 0.002S$. <IMAGE>

IPC 1-7
C30B 29/40; **C30B 23/00**

IPC 8 full level
H01L 21/02 (2006.01); **C30B 23/00** (2006.01); **C30B 29/40** (2006.01)

CPC (source: EP KR US)
C30B 23/00 (2013.01 - EP US); **C30B 29/403** (2013.01 - EP US); **H01L 21/02** (2013.01 - KR)

Citation (search report)

- [X] US 5858086 A 19990112 - HUNTER CHARLES ERIC [US]
- [A] US 6063185 A 20000516 - HUNTER CHARLES ERIC [US]
- [A] US 6596079 B1 20030722 - VAUDO ROBERT P [US], et al
- [A] SCHLESSER R ET AL: "Seeded growth of AlN bulk single crystals by sublimation", JOURNAL OF CRYSTAL GROWTH, NORTH-HOLLAND, AMSTERDAM, NL, vol. 241, no. 4, June 2002 (2002-06-01), pages 416 - 420, XP004360665, ISSN: 0022-0248
- [AD] YONENAGA ET AL.: "High temperature hardness of bulk single crystal AlN", JPN J. APPL. PHYS., vol. 40, 2001, JP, pages L426 - L427, XP002344906

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